WHAT IS CLAIMED IS:

1. A liquid catalyst used in a method of preparing an oil sample for X-ray fluorescence analysis of the concentration of sulfur in said oil sample,

which is prepared by removing silver acetate, and silver sulfide-containing silver compounds and silver precipitated by irradiation with electromagnetic waves or corpuscular rays, by filtration from a mixed solution of a silver nitrate solution having silver nitrate dissolved in a solvent and a sodium acetate solution having sodium acetate dissolved in said solvent.

2. The liquid catalyst according to claim 1, wherein;

said oil sample is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol, and

said solvent is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol for the catalyst.

3. A method of producing the liquid catalyst according to claim 1, comprising:

mixing a silver nitrate solution having silver nitrate dissolved in a solvent with a sodium acetate solution having sodium acetate dissolved in said solvent to form silver acetate,

subjecting the mixed solution to first filtration to remove said silver acetate,

irradiating the solution with electromagnetic waves or corpuscular rays to precipitate silver sulfide-containing silver compounds and silver,

subjecting the solution to second filtration to remove said silver

compounds and silver,

allowing a nitrogen gas to flow into the solution to remove dissolved oxygen, and

adding an aldehyde or ammonia for preventing oxidation and improving the long-term shelf life.

4. The method of preparing a liquid catalyst according to claim 3, wherein:

said oil sample is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol,

said solvent is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol for the catalyst,

said electromagnetic waves or corpuscular rays are X-rays having longer wavelengths than the L absorption edge wavelength of silver and containing the absorption edge wavelength of sulfur, and

said aldehyde is formaldehyde, acetaldehyde or benzaldehyde.

5. An apparatus for producing the liquid catalyst according to claim 1, comprising a radiation source for purifying the catalyst, to irradiate said mixed solution with the electromagnetic wavers or corpuscular rays in order to precipitate said silver sulfide-containing silver compounds and silver.

6. The apparatus for producing a liquid catalyst according to claim 5, wherein said radiation source for purifying the catalyst is an X-ray source for purifying the catalyst to irradiate X-rays having longer wavelengths than the L absorption edge wavelength of silver and containing the absorption edge wavelength of sulfur.

7. A method of preparing an oil sample for X-ray fluorescence

analysis of the concentration of sulfur in said oil sample, comprising:

allowing a nitrogen gas to flow into the liquid catalyst according to claim 1 to remove dissolved oxygen,

adding the liquid catalyst to said oil sample collected in a sample holder and stirring them,

irradiating the stirred solution with electromagnetic waves or corpuscular rays to precipitate silver sulfide-containing silver compounds and silver, and

adding ammonia or an aldehyde to dissolve silver compounds and silver other than silver sulfide-containing sulfur compounds, whereby the silver sulfide-containing sulfur compounds are left as precipitates on a window in the bottom of said sample holder.

8. The method of preparing an oil sample according to claim 7, wherein:

said oil sample is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol,

the solvent in said liquid catalyst is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol for the catalyst, and

the electromagnetic waves or corpuscular rays for irradiation to said stirred solution are X-rays having longer wavelengths than the L absorption edge wavelength of silver and containing the absorption edge wavelength of sulfur.

9. An X-ray fluorescence spectrometer for analyzing the concentration of sulfur in an oil sample by the preparation method described in claim 7, comprising:

a pretreatment radiation source for downward irradiating said

stirred solution with said electromagnetic waves or corpuscular rays, and

an analytical X-ray source for upward irradiating a window in the bottom of said sample holder with primary X-rays.

10. An X-ray fluorescence spectrometer for analyzing the concentration of sulfur in an oil sample by the preparation method according to claim 8, comprising:

a pretreatment X-ray source for downward irradiating said stirred solution with the X-rays having longer wavelengths than said L absorption edge wavelength of silver and containing the absorption edge wavelength of sulfur, and

an analytical X-ray source for upward irradiating a window in the bottom of said sample holder with primary X-rays.

11. The X-ray fluorescence spectrometer according to claim 10, wherein the X-rays irradiated by said pretreatment X-ray source are X-rays monochromated in the absorption edge wavelength of sulfur.

12. A method of preparing an oil sample for X-ray fluorescence analysis of the concentration of sulfur in said oil sample, comprising:

allowing a nitrogen gas to flow into the liquid catalyst according to claim 1 to remove dissolved oxygen,

adding the liquid catalyst to said oil sample and stirring them, and

irradiating the stirred solution with electromagnetic waves or corpuscular rays and filtering the solution through a filter membrane, to separate silver sulfide-containing silver compounds and silver on said filter membrane.

13. The method of preparing an oil sample according to claim

12, wherein:

said oil sample is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol,

the solvent in said liquid catalyst is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol for the catalyst, and

the electromagnetic waves or corpuscular rays for irradiation to said stirred solution are X-rays having longer wavelengths than the L absorption edge wavelength of silver and containing the absorption edge wavelength of sulfur.

14. A method of preparing an oil sample for X-ray fluorescence analysis of the concentration of sulfur in said oil sample, comprising:

adding a silver nitrate solution having silver nitrate dissolved in a solvent and a sodium acetate solution having sodium acetate dissolved in said solvent, as a liquid catalyst to said oil sample collected in a sample holder and stirring them, and

irradiating the stirred solution with electromagnetic waves or corpuscular rays to precipitate silver sulfide-containing silver compounds and silver on a window in the bottom of said sample holder.

15. The method of preparing an oil sample according to claim 14, wherein:

said oil sample is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol,

said solvent is a C_{1-8} alcohol for the catalyst, and

said electromagnetic waves or corpuscular rays for irradiation to said stirred solution are X-rays having longer wavelengths than the L absorption edge wavelength of silver and containing the absorption edge wavelength of sulfur.

16. The method of preparing an oil sample according to claim 15, wherein the X-rays for irradiation to said stirred solution are X-rays monochromated in the absorption edge wavelength of sulfur.

17. A method of preparing an oil sample for X-ray fluorescence analysis of the concentration of sulfur in said oil sample, comprising:

adding a silver nitrate solution having silver nitrate dissolved in a solvent and a sodium acetate solution having sodium acetate dissolved in said solvent, as a liquid catalyst to said oil sample and stirring them, and

irradiating the stirred solution with electromagnetic waves or corpuscular rays and filtering the solution through a filter membrane, to separate silver sulfide-containing silver compounds and silver on said filter membrane.

18. The method of preparing an oil sample according to claim 17, wherein:

said oil sample is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol,

said solvent is a C_{1-8} alcohol for the catalyst, and

the electromagnetic waves or corpuscular rays for irradiation to said stirred solution are X-rays having longer wavelengths than the L absorption edge wavelength of silver and containing the absorption edge wavelength of sulfur.

19. The method of preparing an oil sample according to claim 18, wherein the X-rays for irradiation to said stirred solution are X-rays monochromated in the absorption edge wavelength of sulfur.

20. An X-ray fluorescence analysis method for analyzing the concentration of sulfur in the oil sample, comprising:

adding a silver nitrate solution having silver nitrate dissolved in a solvent and a sodium acetate solution having sodium acetate dissolved in said solvent, as a liquid catalyst to the oil sample collected in a sample holder and stirring them,

upward irradiating a window in the bottom of said sample holder with primary X-rays to precipitate silver sulfide-containing silver compounds and silver on said window while measuring the intensities of fluorescent X-rays emitted from the oil sample.

21. The X-ray fluorescence analysis method according to claim 20, wherein:

said oil sample is a petroleum product, a semi-finished petroleum product serving as the starting material thereof or a C_{1-8} alcohol, and

said solvent is a C_{1-8} alcohol for the catalyst.